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ENGLISH LANGUAGE TRAINING AND ASSESSMENT: THE SCOPE OF THE ISSUE

ABSTRACT

FAA Advisory Circular Number 60-28 expands the description of the scope of English assessment required for flight training in the United States. But because language is dynamic and infinite, assessment can be difficult. There is a need, however, for both standards and standardization in English assessment for the aviation training industry and for the commercial airline industry.

The issue of English testing for aviation is examined in light of what language experts know about language acquisition and language testing in general as it relates to the specialized environment of aviation English. Some important issues identified include a discussion of the relationship of aviation English to general English, and examination of the range of English dialects, a discussion of "standard" English, and the impact of attitudes to dialects on assessment.

0INTRODUCTION—A CALL FOR STANDARDS

This paper is yet another call for improved standards and standardization in English language proficiency assessment for the global aviation and aviation training industries. The scope of circumstances in the aviation industry impacted by the English proficiency of its participants is large and includes the following, among other, situations:

1. a non-native speaker of English in flight training in the United States;
2. a non-native English-speaking pilot for a foreign carrier flying in U.S. and international airspace;
3. native and non-native English-speaking pilots for U.S. and international carriers flying in international airspace and communicating in English with limited English proficiency (LEP) air traffic controllers.

In all of these areas, and others, there is a need to clarify standards of English language proficiency, a need for a tool to assess proficiency, and for a governmental and industry commitment to English language training.

BACKGROUND

English language skills, of course, are required private pilot certification under Title 14 of the of Federal Regulations part 61, and ICAO recommends somewhat confusingly both communication in the language spoken on the ground and English for commercial aviation, yet we have both hard and anecdotal evidence that many pilots and pilot trainees fly in U.S. airspace without safe levels of English: witness the Avianca crash in 1990 for an example of a language-related catastrophe in commercial aviation. Numerous accidents around the world have been attributed in part to limited English skills of pilots or controllers. At the flight training level, my position as

the director of an English language program at an aviation university has provided me numerous encounters with non-native English-speakers in flight training at nearby flight schools who lack sufficient English, even, to hold more than the simplest conversation.

Although there are clearly overlapping issues regarding the use of English in aviation training and in commercial aviation, their differing contexts make it helpful to examine the flight training industry separately from the commercial aviation industry and from air traffic control.

FLIGHT TRAINING

The FAA does indeed require that all flight certificate applicants demonstrate proficiency in English, yet it does so, unfortunately, in the vaguest possible terms. Current FAA regulations regarding English language proficiency require that pilots "must be able to **read**, **write**, **speak**, and **understand** the English language." As guidance, FAA Advisory Circular No. 60-28 elaborates: the examiner will determine an applicant's English language proficiency by evaluating speech in terms of sentence patterns, sentence structure, spelling, and standard clearance terminology. Applicants are required to both read, write an interpretation of, and explain a section of a technical manual and also to read back simulated RTF communications.

Clearly it is the intent of FAA AC No. 60-28 that all applicants demonstrate English language proficiency to ensure safe training and flight. Currently, responsibility for ensuring safe levels of English proficiency in flight applicants is shared by flight instructors, ground instructors, aviation schools, designated examiners, and aviation safety inspectors. With so many individuals responsible to check for English proficiency, it would seem unlikely that anyone with low levels of English proficiency would get access to flight training. Without a standardized tool (or test) to measure proficiency and without setting standard levels of required proficiency, the FAA regulations become awkward to implement and difficult to enforce.

LANGUAGE PROFICIENCY

Although reading and writing skills are important in flight training, they do not impact safety as much as speaking and listening skills do. Therefore, for the purpose of this discussion, English proficiency is understood to mean oral/aural proficiency.

Flight applicants with very high levels of English proficiency probably do not cause much of a problem for examiners under current regulations. In the field of second language acquisition, individuals with a very strong command of English are known as "near native-like" speakers of English. Near native-like speakers of English exhibit very limited, if any, markers of non-nativeness, with natural and idiomatic speech. Very few, perhaps only five percent of, adult language learners attain near native-like ability.

At the bottom end of English language proficiency scales are individuals with zero command of the language or an exceedingly limited command. Flight applicants in this group, similarly, probably do not pose much difficulty for

examiners: not many of them apply directly for flight training, and it is fairly easy to identify and block from flight activities such individuals.

However, by far, the vast majority of flight applicants who speak English as a second language will have a level of proficiency somewhere on a continuum between near-zero ability and near native-like status. All of these

In our programs, we use a scale which divides the range of abilities into the following categories: No competence, Not competent, Nearly competent, Minimally competent, Fully competent, Near native-like competence, Native-like competence.
(See English Competency Rating Scale)

A central issue is to identify at which point on the scale does English proficiency match safe flight. A second issue, then, is how to take an accurate measure of an individual's English ability.

Embry-Riddle
English Competency Rating Scale

60	Native-like competency
61	Near native-like competency
62	Fully competent
63	Somewhat competent
64	Minimally competent
65	Nearly competent
0	Not competent

SAFE FLIGHT

Clearly, with so few adult second language learners achieving near native-like status, it is not realistic to set such a standard for flight. But what is a safe standard of English proficiency for flight? Like language itself, the answer to this question is complex. The reality is

individuals have some ability to read, write, speak, and understand English to some degree (barring non-literate individuals from consideration.) The variety of their abilities—between minimal competence in English to full competence—is vast. Even calling for "fluency" in reading, writing, speaking, or understanding is too imprecise a measure.

that communication can—and does—present a problem in flight even to native speakers of English, and there is no guarantee that someone with a high level of English proficiency will never encounter a language-related difficulty during flight. However, it is possible to set a standard—somewhere below near native-like proficiency—that will ensure as far as possible that a second language pilot will have sufficient English to handle any situation as readily as would a native speaker of English. There are certain features of speech, which may clearly mark someone as a non-native speaker, but in no way impede communication. Indeed, setting even a low minimal standard of English proficiency as a guide for some situations (dual flight, for example) would offer an improvement.

MEASURING PROFICIENCY

It is difficult but by no means impossible to measure proficiency in spoken English. Language specialists can identify several salient features of speech: accent, intonation, structure, pronunciation, range of vocabulary, and fluency…all of which impact intelligibility.

One problem with current regulations which lay responsibility for checking

English proficiency at the feet of flight instructors and examiners is that flight instructors are not usually trained to make an accurate assessment of English proficiency. Assessing oral ability is highly subjective, although trained raters and a standardized scale can produce reliable results. Ensuring that all applicants are held to the same standard is time intensive. It is difficult for a flight instructor attending to the many other demands on their attention on the ground and in the cockpit to accurately evaluate English proficiency for a number of reasons; assessing oral ability accurately takes training;

A second problem is that without a standard rating scale and without a standardized test, flight applicants are not held to the same standard; different examiners and flight instructors may interpret the regulations regarding English proficiency differently. In fact, we have seen this happen at our institution where flight students who are not able to meet our English proficiency The flight training industry similarly can, and should, set clear and measurable standards.

SOLUTION, STEP 1

A first step towards a solution would be for the FAA to adopt a standard rating scale for English proficiency required for flight training in the U.S. Instructors, Examiners and institutions could use the scale merely as a guide to understand English proficiency, retaining their ultimate responsibility for certifying a sufficient level of English.

SOLUTION, STEP 2

A second step would be for the FAA to set a minimum standard of oral proficiency for flight training dual and a second, higher, standard for solo flight and certification. Again, meeting the minimal standard for each level would not override an instructor's assessment, but would provide additional information for flight applicants, instructors, and institutions.

demands leave to get their flight training at other nearby flight schools.

A MODEL

University admissions departments require applicants to submit test scores (usually the TOEFL, an academically oriented test which does not test speaking) as evidence of English proficiency before acceptance into their programs. Universities also often require non-native graduate teaching assistants to demonstrate English proficiency by obtaining a certain score on a commercially available speaking test (ETS' SPEAK test or the Test of Spoken English) before beginning their teaching assignments. Getting access to these tests and acquiring enough English to obtain a high enough score can be challenging, but applicants to universities have high motivation to get the English they need to meet the demands of the tasks in their future academic programs. In short, higher education in American has standards.

SOLUTION, STEP 3

Ultimately, the FAA could move towards requiring applicants to present evidence of certified language proficiency, in addition to being checked out by a flight instructor. The FAA could consider requiring a minimum score on one of a range of standardized tests approved by the FAA: an aviation-related speaking test or, perhaps,

alternately, the ETS Test of Spoken English.

In short the responsibility for certifying English proficiency would never be removed from the flight instructor or examiner who would always be able to override any test score, but use of test scores and wide-spread acceptance of a single rating scale could work to set minimum standards and aid flight instructors in assessing English proficiency.

COMMERCIAL AVIATION AND ATC

In the commercial aviation world, there are issues which overlap the need in the aviation training industry for standards of proficiency and assessment, but the issues are framed in an entirely different, and very interesting, context.

In commercial aviation, too, there is a need to set a minimum level of English proficiency for pilots. However certain constraints, including political considerations, impact a move towards requiring outright a minimum standard of English proficiency for pilots flying in US airspace. ICAO does not require outright, but rather recommends that English be available for radio communication. FAA regulations state that foreign airlines certify that their pilots "speak and understand English to a degree necessary" for appropriate radio communication (FAR Part 129 Appendix A Section 6). There is no outside check on English proficiency, no standardized rating scale, nor required test.

Although there are from time to time calls for requiring rigid, measurable standards for English proficiency for commercial airline pilots and international air traffic controllers, there are reasons why another approach to ensuring a high standard of English proficiency in foreign pilots and controllers may make better sense.

ENGLISH AS LINGUA FRANCA

First, it is important to understand the role of English in the aviation community. At the end of the 20th Century and as we move into the new millennium, English is indisputably the preeminent language of international communication, as well as the lingua franca of the global aviation industry. There are a number of historical reasons why English has assumed this role. Indeed, it is the aviation military and commercial organizations which first established the conditions which have led to the rise of English. US and British predominance in Europe after WWII, the dominant role of America in science and technology, including the aviation industries, and, increasingly, the role of English as the language of access to the internet have all contributed to the rise of English as the language of the international aviation community.

English is the official or semi-official language in at least sixty countries; it is spoken as a first language by 375 million people, as a second language by another 375 million, and as a foreign language by an additional 750 million. Another startling statistic which demonstrates the global dominance of English: 84% of internet servers are in English; the next largest language group for internet sites is German at 4.5%. Indeed, it has been suggested that English is not only a global language, but it is a universal

language: the spacecraft, Voyager, on behalf of the United Nations carries a welcome message from the German speaking Secretary General of the United Nations, Kurt Waldheim, to any other life-inhabited galaxies it may encounter. (Pakir 104)

however, is this positioning of English —so very convenient to native speakers of English and to the US aviation community—absolute? Is the world indeed moving irreversibly towards a single language solution to the problems of communication in global aviation? And are we native English speakers fortunate enough that this single language solution is and will remain English?

There is a good deal of evidence that English is in no immediate danger of being toppled from its present perch, at least not in our lifetimes. But what about the future? What about planning for the long-range health of American carriers? Just imagine, for a moment, what different concerns the US aviation community might have in a world in which English were not the language of aviation. What additional costs would be incurred for language training for pilots and controllers? That English is indeed the language of the skies is a luxury not to be taken for granted.

Are there any current or future circumstances which might impact this situation, so comfortable for the US aviation community, for change?

ROLE OF ICAO AND THE FAA

Firstly, it is important to remember that there is no governing body which has absolute authority to enforce international aviation regulations. ICAO aims to serve as the governing body of international aviation; its role is to "foster the implementation of ICAO Standards and Recommendations." Countries agree to abide by ICAO as signatories to the ICAO treaty. Of course, the FAA has authority to—and does—set standards for language proficiency for foreign airlines flying in US airspace, but again, for reasons we shall see there may be good reasons for an alternative approach to requiring rigid, proven high standards.

LINGUISTIC PRIDE

Of course it makes very good sense for there to be one single language of international aviation. But it is equally true that language is closely tied to cultural and national pride. Although there has thus far been remarkable cooperation towards, and relatively little resistance to, English in international aviation, the impact of English as a global language on other languages and cultures is of keen debate in linguistic, political, and pedagogical circles. Books are written about the linguistic genocide—the loss of native languages to English—attributed to the rise of English and to the role of English as gatekeeper to positions of power and prestige. Imposing a standard language in many other contexts outside of the aviation industry is often found to be offensive; indeed wars have been fought, in part, over the right of a people to speak their native language. What has this to do with aviation? My purpose is to point out that the role of English as a world language is a critical issue and should not be taken for granted; the role of English as the defacto language of

aviation demands a thoughtful and sensitive solution.

When we hear of accidents and near misses with communication problems as a cause, it is natural to call for the rigid imposition of high standards. But imagine if the FAA were to set a rigid and high standard of English for commercial pilots flying into the U.S. Consider possible responses to and effects of such a move. What might be the economic impact on foreign carriers of such a move? What is to prevent foreign governing bodies from moving away from ICAO recommendations and setting similar standards in reverse for flight into their skies? Perhaps, in the short run, this is an unlikely scenario, but as English is the "defacto" language of aviation, is it impossible?

Another important consideration is to remember that, although no language has ever reached the level of English, there have been other languages which have played the role of "lingua franca" in history, and at least one model of language use identifies several possible contenders, at least in some areas of the world, for that role in the future, including Chinese, Arabic, and Spanish. (Pakir) There are nearly as many first language speakers of Chinese world wide, for example, than there are people who speak English as a first, second, or foreign language combined. With the increasing role China is playing in the world economy, is it impossible to imagine a future in which the role of China is such that they were able to demand linguistic space in the international arena?

An additional complicating factor is the role of accent and dialect. If some governing body were to set a required, measurable, and high level of English proficiency, which English dialect or dialects will be the standard against which to

measure? In the simplest terms, most dialects in the so-called "BANA" Englishes—British, American, New Zealand, and Australian—are mutually intelligible, but certainly not all. If we remember that there are more second and foreign language speakers of English than first language speakers of English, it is easy to understand why, outside of the aviation community, most notably in the field of English teaching, defining just who is or is not a "native speaker" of English is the subject of intense debate. There is much interest currently in the role of "world Englishes."

To understand the complexity of rating speech on a global level, consider the rating scale in use in our programs. Consider next a completely fluent speaker of Indian English. English is an official language in India; it is the language of government, education, and commerce. What rating might an educated speaker of Indian English receive? As an experienced English-as-a second-language teacher, I would rate his speech as "native" speech. But, in an aviation context, is this acceptable? Are Indian varieties of English and American dialects always mutually intelligible?

This discussion of the sensitive nature and complexity of the issue of requiring high and measurable standards of English proficiency in international aviation is emphatically not a suggestion that the aviation community bury their collective heads in the sand in hopeless surrender to the complexity of the issue. Rather it is an attempt to highlight the complexity of the issue, as well as a call for an enthusiastic effort to promote English on many levels in many ways.

How then might US commercial and governmental bodies work to make the skies safer?

A SOLUTION TO PROMOTE ENGLISH

There are several important measures the aviation community can take to improve English proficiency levels while maintaining sensitivity to cultural, national, and commercial interests. A standard rating scale and the availability of a standardized test could be used initially by the aviation industry and air traffic control organizations internally as a standard against which to measure improvement or to help in hiring and promotion decisions with a gradual move towards requiring standard levels of proficiency checked by standardized test scores.

An article on code-sharing practices in commercial aviation in the June 1999 Orient Aviation magazine (48) discusses the need for an internationally standardized safety audit program. The vice-president for corporate safety for Delta Air Lines, John C. Marshall, calls for an "international standard measure of performance," suggesting that globally accepted norms based on ICAO standards rather than FAA standards alone will improve safety and work to "create mutually beneficial and acceptable partnerships, not something forced onto one side."

Mr. Marshall's discussion gives nod to the sensitive political concerns and issues of "extra-territoriality" which exist in the international aviation community. Adopting a standard rating scale and recommending a standardized test for internal use—an international standard measure of English

proficiency—based on globally accepted norms for language proficiency works to improve English proficiency levels in a mutually beneficial manner. The benefit to the aviation industry of a standard rating scale and standardized test would be to boost industry and governmental commitment to training.

Secondly, it is in the best interest of the US aviation community to promote even further the use of English—and not just for the sake of increased air safety alone, as important as that is—by encouraging and supporting the efforts of foreign carriers and aviation authorities to improve English proficiency. Long term planning for the health of the US aviation industry calls for sponsoring English learning opportunities for partner organizations, as several US companies (Delta, FDX, United, among others) have already done. It makes smart business sense to do so. The US government, too, has a stake in fostering the acquisition of English abroad. In fact, British commitment to fostering English can be seen in the success of its British Council English programs across Europe; in general, British English is the preferred teaching model in Europe.

There will be no simple solution to this complex issue, but a concerted effort at providing multiple solutions is called for. The adoption of a standard scale and standardized test would be a first step towards an international standard measure of performance for English proficiency. Secondly, a whole-hearted effort from the US government and the aviation industry to foster the efforts of foreign aviation entities to improve English levels, providing, even, English language training opportunities both at home and abroad, would foster the use of English by creating mutually beneficial partnerships.

REFERENCES

1. FAA Advisory Circular No. 60-28. English Language Skills Standards.

2. FAR Part 61 and 129.

3. ICAO Strategic Action Plan.

4. "KAL keeps faith with Delta Trainers." Orient Aviation. June 1999. Page 48.

5. Pakir, Anne. "English in the Context of Internationalism." TESOL Quarterly. Vol. 33, No. 1, Spring 1999.

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